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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/015,033	12/11/2001	Michael S.C. Chung	F0958	6279

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EXAMINER

NGUYEN, HIEP

ART UNIT	PAPER NUMBER
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2816

DATE MAILED: 04/26/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/015,033

Applicant(s)

CHUNG, MICHAEL S.C.

Examiner

Hiep Nguyen

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on amendment filed on 02-02-04.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-5, 7-12 and 14-21 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-3, 7, 9 and 14-21 is/are rejected.
- 7) ☒ Claim(s) 5, 8 and 10-12 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

**DETAILED ACTION*****Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 14-19, 20 and 21 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Correction and/or clarification is required.

Regarding claims 14 and 21, the recitations “a regulator circuit coupled to said switched capacitor circuit which causes a capacitor to switch between ground potential and the potential of a node, wherein a stair-step ramp signal is generated and said rise time is controlled according to said switched capacitor” in claim 14 is indefinite because it is misdescriptive. Assume that the “a node” is node (136) then, the stair-step ramp is not generated at node (136). Figures 2 and 3 of the present application show that the stair-step ramp (V<sub>pp</sub>) is generated at the output terminal. The rise time is not controlled by the switched capacitor because page 10 of the specification shows that the slope of the stair-step ramp signal is controlled by the ratio of capacitors (113) and (114).

Claim 20 is indefinite because it is misdescriptive. According to claim 20, it seems that the “programming voltage V<sub>pp</sub>”, the “a program signal” and the “a stair-case ramp” are three different signals. As understood by the examiner, figure 1 of the present application shows that there is **only one signal** that is the output signal (V<sub>pp</sub>) of the charge pump (101). This signal is converted to a stair-case signal and is used to program the cell of the flash memory. Clear explanation is required.

Claims 15-19 are indefinite because of the technical deficiencies of claim 14.

***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-3, 7 are rejected under 35 U.S.C. 102(b) as being anticipated by Smayling et al. (US Pat. 5,703,807).

Regarding claims 1-3, figures 4, 5 and 6 of Smayling shows a circuit for controlling the rise time of a signal comprising:

a voltage multiplier (50) which converts an input voltage to an output voltage ( $V_{pp}$ ) greater than said input voltage;

a ramp generator (80, 82, 84, 86, 88 90, 92, 104, 106, 56) coupled to said voltage multiplication circuit which controls said output voltage from said voltage multiplication circuit, wherein a ratio between a first capacitor of said ramp generator and a second capacitor (include in element 90) of said ramp generator determines said rise time of said signal : and

a divide by N counter (60) coupled to said ramp generator.

It is inherent that the voltage multiplier (50) is a charge pump. The output signal ( $V_{pp}$ ) is used to program and erase EPROM (see abstract).

Regarding claim 7, the level shifter (92) shifts down the voltage ( $V_{pp}$ ).

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Smayling et al. (US Pat. 5,703,807).

Regarding claim 9, figure 5 of Smayling includes all the limitations of claim 9 except for the limitation that the oscillator is a ring oscillator. However, However, it is well known in the art that ring oscillator is simple to fabricate by using only gates. Therefore, it would have been obvious to those skilled in the art to replace the clock generator (58) of Smayling with a ring oscillator for simplifying the fabrication process. The selection of a ring oscillator is seen as a design expedient for an engineer depending

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upon a particular environment or an application in which the circuit of Smayling used. Lacking of showing any criticality, a skilled artisan would be motivated to replace the clock generator (58) of Smayling with a ring oscillator for simplifying the fabrication process.

***Allowable Subject Matter***

Claims 5, 8, 10-12 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Claims 15-19 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, second paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

***Conclusion***


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hiep Nguyen whose telephone number is (571) 272-1752. The examiner can normally be reached on Monday to Friday from 7:30am to 4:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Timothy Callahan can be reached on (571) 272-1740. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Hiep Nguyen

01-16-04



TUAN T. LAM  
PRIMARY EXAMINER